

t2_robbins3 (TMM- TYoM5d6hDSgbGDoBhXkPtg95XU8F5xrb)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $v2_robbins3 : \iota \Rightarrow o$ be given. Let $v1_robbins3 : \iota \Rightarrow o$ be given. Let $v3_robbins3 : \iota \Rightarrow o$ be given. Let $v9_lattices : \iota \Rightarrow o$ be given. Let $v6_lattices : \iota \Rightarrow o$ be given. Let $v4_lattices : \iota \Rightarrow o$ be given. Let $v5_sheffer1 : \iota \Rightarrow o$ be given. Let $v7_robbins1 : \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow (((v2_robbins3 \\ X0) \wedge ((v1_robbins3 X0) \wedge ((v3_robbins3 X0) \wedge (v9_lattices X0)))) \Rightarrow \\ ((v5_sheffer1 X0) \wedge (v7_robbins1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l3_lattices X0) \Rightarrow ((l1_lattices X0) \wedge (l2_lattices X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_lattices \\ X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ X0)))) \Rightarrow (m1_subset_1 (k2_lattices X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l2_lattices \\ X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ X0)))) \Rightarrow (m1_subset_1 (k1_lattices X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_lattices X0)) \Rightarrow ((v5_sheffer1 \\ X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_lattices \\ X0 X1 X1 = X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v9_lattices \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 (k1_lattices \\ X0 X1 X2) = X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow ((v7_robbins1 \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_lattices \\ X0 X1 X1 = X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_lattices X0)) \Rightarrow ((v6_lattices \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 X2 = k2_lattices \\ X0 X2 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow ((v4_lattices \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 X2 = k1_lattices \\ X0 X2 X1)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((v3_robbins3 \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 (k2_lattices \\ X0 X1 X2) = X1)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_lattices X0)) \Rightarrow ((v2_robbins3 \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow (k2_lattices X0 X1 (k2_lattices X0 X2 X3) = k2_lattices \\ X0 X2 (k2_lattices X0 X1 X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow ((v1_robbins3 \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 (k1_lattices X0 X2 X3) = k1_lattices \\ X0 X2 (k1_lattices X0 X1 X3)))))) \end{aligned} \quad (12)$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow (((v2_robbins3 X0) \wedge ((v1_robbins3 X0) \wedge ((v3_robbins3 X0) \wedge (v9_lattices X0)))) \Rightarrow ((v6_lattices X0) \wedge (v4_lattices X0)))$$